RELATIONS AMONG FAMILY CONTEXT, DEPRESSION, AND GENDER IN OFFSPRING OF DEPRESSED AND NONDEPRESSED PARENTS

By

SARAH A. FRANKEL

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Professor Judy Garber

Professor Bruce Compas

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CHAPTER I

INTRODUCTION

Offspring of depressed parents are at increased risk for emotional and behavioral problems, especially depression, compared to children of non-depressed parents (Beardslee, Versage, & Gladstone, 1998; Hammen & Brennan, 2003; Lieb, Isensee, Hofler, Pfister, & Wittchen 2002). Though the literature mostly has focused on children of depressed mothers, research has shown that both maternal and paternal depression are associated with depressive outcomes in offspring (Klein, Lewinsohn, Rohde, Seeley, & Olino, 2005; Lieb et al., 2002). Moreover, the effects of parental depression may be different for sons and daughters. Therefore, examining parent gender, child gender, and their interaction may be important for understanding the connection between parental depression and children's outcomes (Hops, 1995).

Several mechanisms explaining the relation between parent and child depression have been proposed (Downey & Coyne, 1990; Goodman & Gotlib, 1999). Parental depression negatively affects children's social interactions (Downey & Coyne, 1990) and is associated with disruptions in parents' marital relationship (e.g. Cummings, Keller, & Davies, 2005), the parent-child relationship (e.g. Lovejoy, Graczyk, O'Hare, & Neuman, 2000), and the family environment (e.g. Park, Garber, Ciesla, & Ellis, 2008). Rudolph, Flynn, and Abaied (2008) proposed that parental depression affects the emergence of interpersonal skills in children, which, in turn, contributes to the subsequent development

of depression in these youth. The current study examined the extent to which the relations among parental depression and various aspects of family context differed as a function of parent and child gender, and whether the relations of parental depression and family context to children's depressive symptoms also varied by parent and child gender.

Gender

Parent Gender. Most research on the effects of parental depression on children has focused on mothers because mothers play a particularly central role in child-rearing, tend to be easier to recruit, and generally are more willing to participate in research compared to fathers (Phares, 1992; Phares & Compas, 1992). Nevertheless, meta-analyses (Connell & Goodman, 2002; Kane & Garber, 2004) indicate that paternal depression also is associated with both internalizing and externalizing problems in children, and therefore should be studied as well.

Results of studies comparing the relation of maternal and paternal depression to child outcomes have varied. Whereas some studies have found that maternal depression was more strongly linked with child outcomes than was paternal depression (e.g. Currier, Mann, Oquendo, Galfalvy, & Mann, 2006), other studies have reported no difference in the relation of maternal and paternal depression to children's psychopathology (Dierker, Merikangas, & Szatmari, 1999). In a qualitative review of the literature, Phares and Compas (1992) concluded that children of depressed fathers were at a similar level of risk for emotional and behavioral problems as were children of depressed mothers. In a meta-analysis a decade later, however, Connell and Goodman (2002) reported that depression

in mothers was more strongly related to children's internalizing problems than was depression in fathers.

Several explanations are possible for why maternal and paternal depression might be related differently to child outcomes. Goodman and Gotlib (1999) suggested that one mechanism by which maternal psychopathology is transmitted to offspring might be through exposure to maladaptive affect, behavior, and cognitions. That is, children might be particularly susceptible to the psychopathology of the parent with whom they spend the most time. As mothers often have a greater share of the child-rearing responsibilities, this would result in maternal depression being more strongly related to child outcomes. In addition, number and duration of episodes associated with maternal and paternal depression may differ and may be related to different levels of risk for children (Currier et al., 2006). Others (e.g., Elgar, Mills, McGrath, Waschbusch, & Brownridge, 2007) have proposed that mother-child and father-child interactions are related to different aspects of children's well-being, with mothers affecting self-esteem and emotional well-being and fathers' affecting children's social competence.

There also is some evidence that the parenting deficits associated with depression may be more severe for mothers than fathers. For example, both Jacob and Johnson (1997) and Field, Hossain and Malphurs (1999) observed lower quality interactions between depressed mothers and their children than between depressed fathers and their children. Thus, the relation between parental depression and child outcomes may differ for mothers versus father, and this may be due, in part, to differences in the overall quantity and quality of their interactions with their children.

Child Gender. The connection between parental and offspring depression has been shown to be stronger for girls than boys (Cortes, Fleming, Catalano, & Brown, 2006; Fergusson, Horwood, & Lynskey, 1995; Hops, 1992). Moreover, the relation between stressful life events and depressive symptoms is stronger for girls than boys (Bouma, Ormel, Verhulst, & Oldehinkel, 2007). As girls tend to have a more relational orientation (i.e., focus on social approval and harmony in relationships rather than self-enhancement, dominance and competition), interpersonal stress is more likely to lead to depression in girls than boys (Rose & Rudolph, 2006; Rudolph, 2002). Indeed, Gore, Aseltine and Colton (1993) reported that about 25% of the gender difference in child distress was accounted for by girls' interpersonal caring orientation and higher levels of involvement in the problems of others. Adolescent girls have been found to be more reactive than boys to stressful events involving others, but not to stressors involving self-worth (Leadbeater, Sidney, & Quinlan, 1995). Similarly, Moran and Eckenrode (1991) revealed a stronger correlation between social stress and depression for adolescent girls but not boys. Finally, Rudolph and colleagues (Rudolph & Hammen, 1999; Rudolph, Hammen, & Burge, 2000) have found that girls experience more conflict than boys, and this social stress is associated with depression for girls but not for boys. Thus, daughters may be more vulnerable than sons to the interpersonal stress and conflict found in families with a depressed parent.

Family relationships also may be more disrupted for girls than boys. Girls tend to score higher than boys on measures of autonomy seeking (Steinberg & Silverberg, 1986). In contrast, mothers are more likely to use control *with* autonomy granting (associated with more positive outcomes) with boys and control *without* autonomy granting

(associated with more negative outcomes) with girls (Pomerantz & Ruble, 1998). Thus, the combination of girls' increased autonomy seeking and mothers' difficulty granting this autonomy to girls may cause strain on the parent-child relationship (Rudolph, 2002; Rudolph & Hammen, 1999), a stressor which then may lead to more depressive symptoms in girls.

Parent Gender by Child Gender Interactions. Maccoby (1990) argued that gender differences emerge through social interactions, and that same-sex versus opposite-sex interactions develop differently. Findings on the risk of transmission of maternal and paternal depression to sons versus daughters have been inconsistent (Currier et al., 2006). Transmission of parental psychopathology may be stronger with children of the same-sex because children may be influenced more by models similar to themselves (Bandura, 1977), or because parents invest more time and energy into children with whom they identify more. Studies have found that parental behavior may be more strongly associated with outcomes in same-sex children (e.g. aggression: Deater-Deckard & Dodge, 1995; self-criticism: Koestner, Zuroff, & Powers, 1991). In particular, cognitive styles conveyed through parent-child communication about the self, world, and future may be more strongly related for same-sex than opposite-sex parent-child dyads (Liu, 2003). These cognitive styles may, in turn, be linked to depressive outcomes in children (Stark, Schmidt, & Joiner 1996). Thus, studying parent and child gender differences within the context of interpersonal relationships may be informative about possible pathways to various child outcomes.

With regard to depression in children, Roelofs and colleagues (Roelofs, Meesters, Huurne, Bamelis, & Muris, 2006) found that rejection by mothers was related to

depressive symptoms in girls, whereas rejection by fathers was related to depression in boys. In addition, insecure attachment with the father was associated with depression in boys but not girls. Hops (1992) reported a stronger link between mothers' and daughters' depressive symptoms than between those of mothers and sons, and a stronger link between fathers' and sons' symptoms than between those of fathers and daughters. In a second study (Hops, 1992), the link between fathers' and daughters' depressive symptoms was stronger, although still not as strong as the association between mothers' and daughters' symptoms, and neither parents' symptoms were related to those of sons. Winokur and Clayton (1967) reported that mood disorders were more strongly correlated for mothers and daughters than mothers and sons, whereas mood disorders in fathers were correlated equally with mood disorders in sons and daughters. Thus, some evidence supports a stronger connection between parental and child depression for both same-sex dyads, whereas other findings highlight the association between mother's and daughter's depression in particular.

In contrast, others (e.g., Ge, Conger, Lorenz, Shanahan, & Elder, 1995) have found a stronger association between mothers' and sons' and between fathers' and daughters' psychological distress than between distress in same-sex dyads. Ge and colleagues suggested that this could be a function of parents' difficulty identifying with the adolescent struggles of opposite-sex children, or a function of women's (mothers and daughters) greater sensitivity to male distress in their social environment. Consistent with this latter view, Taylor and colleagues (2000) found biological differences in male and female hormonal responses to stress. Specifically, the release of oxytocin in women has been linked to a stress-response pattern of "tend-and-befriend," which involves nurturing

as well as creating and maintaining social networks. Thus, findings on how maternal and paternal depression relate to depressive outcomes in sons versus daughters have been inconsistent and need further study.

Family Context

Parental depression is associated with a variety of negative outcomes in children, but not all children of depressed parents develop psychopathology. Although genetic factors clearly are important in the cross-generational transmission of psychopathology, they do not entirely account for all of the variance in depression among at-risk offspring (Bierut et al., 1999). Contextual factors in the families of depressed parents' including difficulties in the marital relationship, parent-child relationship, and family environment may be another mechanism through which parental depression is related to negative child outcomes (Garber, 2005; Goodman & Gotlib, 1999).

Marital Relationship. Both men and women with a history of depression report less marital satisfaction than men and women without a history of depression (Herr, Hammen, & Brennan, 2007), and parental depressive symptoms are associated with increased marital conflict (Cummings et al., 2005). Children whose parents are in high conflict marriages may model parents' behavior and have difficulty learning appropriate social interaction skills (Cummings & Davies, 1994). This lack of social skills then may lead to increased interpersonal stress and, in turn, more depressive symptoms. Cummings and colleagues (Cummings et al., 2005; Gomulak-Cavicchio, Davies, & Cummings, 2006) have found that marital conflict was associated with higher internalizing for

children, and marital conflict mediated the relation between parental depressive symptoms and children's adjustment.

Marital conflict has been associated with different parenting styles of mothers and fathers and different outcomes in sons and daughters. In addition, the association between marital conflict and child adjustment has been found to vary by the interaction of parent and child gender (for review see Snyder, 1998). Davies and Windle (1997) reported that marital discord mediated the relation between maternal depression and adolescent depression for daughters but not for sons. Several researchers have found a particularly strong effect of marital discord on daughters of fathers. In families with more marital conflict, fathers have been shown to be more authoritarian (Cowan, Cowan, & Kerig, 1993) and less engaged (McHale, 1995) with daughters than with sons. Additionally, in families with lower marital quality, fathers have been found to show more negativity toward daughters and daughters were less compliant with fathers (Kerig, Cowan, & Cowan, 1993).

Parent-Child Relationship. Another possible link between maternal depression and maladaptive child functioning is through difficulties in the parent-child relationship (Goodman & Gotlib, 1999). Depressed mothers tend to be more negative, more disengaged, and less positive with their children than well mothers (for review, see Lovejoy et al., 2000; Jacob & Johnson, 1997). Depressed parents also show more criticism (Frye & Garber, 2005; Herr et al., 2007), psychological control (Cummings et al., 2005; Herr et al., 2007), and conflict (Kane & Garber, 2004) and less monitoring (Gelfand & Teti, 1990), acceptance (Herr et al., 2007), and warmth (Cummings et al., 2005) than well parents.

Several aspects of the parent-child relationship have been linked to depressive and internalizing symptoms in youth (for review, see Sheeber, Hops, & Davis, 2001). Harsh discipline (Kim & Ge, 2000), lack of support (Sheeber, Hops, Alpert, Davis, & Andrews, 1997), conflict (Sagrestano, Paikoff, Holmbeck, & Fendrick, 2003; Sheeber et al., 1997; Sheeber, Davis, Leve, Hops, & Tildesley, 2007), over-protection (Avison & McAlpine, 1992; Roelofs et al., 2006), psychological control (Brennan, LeBrocque, & Hammen, 2003), harsh-negative parenting (Dallaire et al., 2006), indifference (Liu, 2003), and rejection (Roelofs et al., 2006) all are associated with increased internalizing in youth. Lower internalizing scores in children have been linked with higher levels of inductive reasoning (Kim & Ge, 2000), monitoring (Kim & Ge, 2000; Sagrestano et al., 2003), involvement and warmth (Brennan et al., 2003; Roelofs et al., 2006), caring (Avison & McAlpine, 1992; Liu, 2003), attachment, autonomy, relatedness (Allen et al., 2006), and supportive-positive parenting (Dallaire et al., 2006; Sheeber et al., 2007; Stice, Ragan, & Randall, 2004).

Some studies have found a connection among parental depression, more negative parenting practices, and children's depressive symptoms (e.g., Goodman, Adamson, Riniti, & Cole, 1994; Kim & Ge, 2000). For example, Goodman and colleagues (1994) reported that depressed mothers used more affectively charged negative statements with their children, and that these children had higher rates of psychopathology. In addition, low levels of warmth and high levels of psychological control and over-involvement by depressed mothers predict more negative outcomes in their children (Brennan et al., 2003). Thus, the quality of the parent-child relationship may mediate the connection

between parents' and children's depression (Garber, 2005; Harnish, Dodge, & Valente, 1995).

Some differences have been found between depressed mothers and fathers in their relationship with their children and in the connections between these relationships and child outcomes. Jacob and Johnson (1997) reported that depressed mothers showed less positivity and more negativity than depressed fathers. They also found that father-child communication moderated the relation between paternal and child depression, whereas mother-child communication did not moderate the relation between maternal and child depression. That is, children of depressed fathers who communicated well displayed fewer depressive symptoms than offspring of depressed fathers who were poor communicators. Studies also have shown that paternal acceptance is inversely related to children's depression whereas maternal acceptance is not (Alloy et al., 2001; Bean, Barber, & Crane, 2006). Sheeber and colleagues (2007), however, did not find differences in parenting based on parent gender, although they assessed acceptance in combination with other measures to create a larger construct of "parent support." In an interesting study of dyadic relationships in the family, Cole and McPherson (1993) found that both mother-child and father-child conflict correlated with children's depressive symptoms, but father-child conflict continued to predict children's depression over and above the effects of mother-child and mother-father conflict. In addition, father-child cohesion, but not mother-child cohesion, was related to children's depressive symptoms.

Little research to date has examined whether the relation between problems in the parent-child relationship and children's adjustment differs for sons versus daughters, and findings thus far have been inconsistent. For example, Slavin and Rainer (1990) revealed

a stronger relation between family support and depressive symptoms for girls than for boys, whereas Cumsille and Epstein (1994) found that low family support significantly correlated with depressive symptoms in sons, but not in daughters. Others (Sheeber et al., 2007) have found no gender differences in the relation between perceived parental support and children's depressive symptoms. Sheeber and colleagues (2007) attributed the difference between their findings and those of previous studies to their use of multi-method assessment including observational data. They suggested that girls' perceptions of support from parents may have a stronger association with depressive symptoms than boys' perceptions, but that the actual parent-child interactions may have a similar impact on boys and girls. Consistent with this view, Yahav (2007) found that children with internalizing disorders reported worse perceived parenting than did their healthy siblings.

Some evidence exists of a parent gender by child gender interaction on the associations among parental depression, parent-child relationship, and child outcomes. Elgar and colleagues (2007) found that mothers of daughters showed more nurturance and monitoring than did other parent-child dyads. Avison and McAlpine (1992) reported a stronger inverse correlation between perception of mothers' caring and children's depressive symptoms in daughters than in sons. In addition, Ehnvall, Parker, Hadzi-Pavlovic and Malhi (2008) showed that depressed adult females retrospectively reported more negative parenting by their mothers than did depressed adult males, whereas reports of fathers' parenting did not differ by gender. Ge, Lorenz, Conger, Elder and Simons (1994) found that daughters of low supportive mothers experienced more depressive symptoms than did daughters of highly supportive mothers, whereas no association was found between support and depressive symptoms for fathers or sons. Thus, the relations

among parental depression, the parent-child relationship, and child outcomes appear particularly strong for daughters of mothers.

Several factors may account for the connection between problems in the parent-child relationship and negative child outcomes. Plunkett, Henry, Robinson, Behnke and Falcon (2007) found unique patterns in the relations among parental support, psychological control, self-esteem and children's depressive symptoms as a function of parent and child gender. Psychological control was related directly to depressed mood for sons, whereas for daughters psychological control correlated with low self-esteem, which in turn was related to more depressed mood. For all four parent-child dyads, perceived parental support was related to children's self-esteem, which was related to children's depressed mood. For daughters of fathers, however, there also was a direct path between paternal support and children's depressed mood. Similarly, Avison and McAlpine (1992) reported that daughters of fathers were more likely to report over-protection than were sons of fathers or daughters of mothers. Thus, parents' level of care, support, control, and over-protection are linked to children's self-esteem and mastery, which may be one mechanism through which these parenting dimensions exert their influence on children's depressive symptoms (Avison & McAlpine, 1992; Garber, Robinson, & Valentiner, 1997; Plunkett et al., 2007). Alternatively, Uehara, Sakado, Sato and Someya (1999) found a significant association between adults' retrospective reports of high maternal care and their use of task-oriented coping (e.g., problem-solving), and reports of low maternal care and high maternal over-protection with the use of emotion-oriented coping strategies (e.g., emotional responses and self-preoccupation). These coping strategies, in turn, may have differentially affect children's functioning.

Family Environment. In addition to the marital relationship and the parent-child relationship, other aspects of the family context may be related to parents' and children's depression. Park and colleagues (2008) found that the family environments of depressed mothers were characterized by lower positivity and higher negativity than those of well mothers, and these aspects of the family environment were significantly related to children's depressive symptoms. Similarly, a significant association has been found between overall family functioning and depressive symptoms in children (Millikan, Wamboldt, & Bihun, 2002), and more stressful family environments were related to longer episodes of depression in children (McCauley et al., 1993). Few studies have examined the more specific components of the family environment (e.g. disengagement, cohesion, and enmeshment) in relation to parent and child depression. Barber and Buehler (1999), however, showed that family cohesion was negatively related and enmeshment was positively related to depressive symptoms in children.

Finally, some evidence exists that the relation of the family environment to parents' and children's depression may vary by parent and child gender. Cowan and colleagues (1993) reported that fathers were more authoritarian with daughters than with sons. Cumsille and Epstein (1994) found that family cohesion correlated with depressive symptoms for sons but not daughters, whereas Rubin and colleagues (1992) reported that family cohesion acted as a buffer between stress and depressive symptoms for girls but not for boys.

The Present Study

There is strong evidence of a link between parental depression and disruptions in marital relationships, parent-child relationships, and the family environment. These three aspects of the family context also have been linked to depressive symptoms in children. Reviews of this literature (Connell & Goodman, 2002; Leadbeater et al., 1995) indicate that the relations among parental depression, interpersonal stress, and child outcomes vary as a function of parent gender, child gender, and their interaction, although the evidence has not been consistent. The aim of the current study was to examine the connections among parent gender, child gender, family context, and children's depressive symptoms in families of depressed and nondepressed parents. In addition, following the recommendation of Hops (1995) to explore individual family dimensions rather than broader constructs (e.g. positivity and negativity), the current study examined children's and parents' perceptions of the parents' marital relationship, the parent-child relationship, and the family environment separately. We hypothesized that high-risk families would be characterized by more negative perceptions of marital relationships, parent-child relationships, and the family environment, and that these negative aspects of the family context would be associated with higher levels of depressive symptoms in children. We also explored the extent to which these relations varied by parent gender, child gender, and their interaction.

CHAPTER II

METHOD

Participants

Participants were 226 dyads of one parent and one child per family. The high-risk group consisted of 129 families in which a parent (72.9% mothers) was receiving treatment for depression. Depressed parents met criteria for a current Major Depressive Disorder (MDD) according to the *Diagnostic and Statistical Manual of Mental Disorders* (4^{th} edition; American Psychiatric Association, 1994), and scored 14 or greater on the 17-item Hamilton Rating Scale for Depression ($HRSD_{17}$; Hamilton, 1967). Exclusion criteria included a lifetime diagnosis of any psychotic disorder, paranoid disorder, organic brain syndrome, mental retardation, bipolar I or II, substantial and imminent suicide risk, current or primary diagnosis of substance abuse or dependence, obsessive-compulsive disorder, psychogenic pain disorder, anorexia, or bulimia, antisocial, borderline, or schizotypal personality disorders, or unwillingness to seek treatment for active depression.

The comparison "low-risk" group included 97 families (79.4% mothers) with parents who were lifetime-free of any mood disorder, suicide attempt, antidepressant use, psychotic disorder, organic brain syndromes, or personality disorder, and during the child's life were free of adjustment disorders, generalized anxiety, panic, obsessive-compulsive disorder, post-traumatic stress, somatoform disorders, phobias, substance abuse/dependence, psychotherapy longer than two months or eight sessions, and

psychotropic medication use. Spouses of the comparison parents also were assessed and were subject to the same exclusion criteria.

Child participants were between 7 and 17 years old (Mean = 12.15, SD = 2.30). Exclusion criteria included mental retardation, developmental disability, or significant chronic medical conditions. Among the depressed parents, if more than one child was eligible, then the child closest to age 12 years was recruited. For the non-depressed families, the enrolled child was the one who was most similar to a targeted offspring of a depressed parent in terms of age, gender, and race. The overall sample was 53.7% female, 69.6% Caucasian, 21.6% African-American, 1% Asian, and 6.9% multi-racial. High- and low-risk children did not differ significantly in age, gender or race (see Table 1).

Procedure

Depressed parents were recruited from clinics when they presented for treatment for depression. Parents received treatment including medication and/or cognitive-behavioral therapy from experienced psychiatrists, psychologists, social workers, and psychiatric nurses. Comparison families were recruited through, local schools, health maintenance organizations, community agencies, and print and radio advertisements. Potential comparison parents were screened initially over the telephone. Those who passed the telephone screen then were scheduled for a clinical evaluation to further assess inclusion and exclusion criteria.

This paper reports results from the baseline evaluation. High-risk children were assessed at the beginning of the parents' treatment. Low-risk children were assessed after

the parent was found to be eligible for the study. Institutional Review Board-approved written informed parent consent and child assent were obtained from all participants.

Measures

Psychopathology. The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1997) was used to assess parents' psychiatric history and current status. The Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II; First, Spitzer, Gibbons, Williams, & Benjamin, 1996) was used to assess personality disorders. Inter-rater reliability of the SCID has been found to be good (e.g., Zanarini et al., 2000). For this study, a randomly selected subset of taped interviews was used to assess inter-rater reliability yielding kappa coefficients $\geq$.80.

Modified Hamilton Rating Scale for Depression (HRSD; Hamilton, 1967; Williams, 1988) is an interview-based measure of the severity of depression. The 17-item version used here yields maximum scores ranging from 0 to 52; higher scores indicate greater severity. The HRSD has high inter-rater reliability (i.e., $\geq$ .84) and correlates with other widely used depressive severity measures (Williams, 1988). Intra-class correlation in this study was .96.

The Children's Depression Inventory (CDI; Kovacs, 1992) was used to measure children's self-reported symptoms of depression. Each of the 27 items lists three statements in order of symptom severity. The *Parent* version of the Children's Depression Inventory (P-CDI; Garber, 1984) is identical to the CDI but items are preceded with "My child" rather than "I." Internal consistency, test-retest reliability, and convergent

validity have been well-documented for the CDI (Kovacs, 1992) and P-CDI (Wierzbicki, 1987). In this sample internal consistency was high for the CDI (α =.84) and the P-CDI (α = .88), and the CDI and P-CDI were significantly correlated (r=.50; $p< .01$). A composite score of the CDI and P-CDI, created by taking the mean of the parent and child report*, had a high level of reliability [r_{YY} = .99 (Nunnally & Bernstein, 1994)].

Marital Relationship. The O'Leary-Porter Scale (OPS; Porter & O'Leary, 1980) was completed by parents as an index of overt hostility in the marriage. The ten items ask about the frequency with which various forms of marital hostility occur in front of the child and are rated on a 5-point Likert scale, from "Never" to "Very Often." Coefficient alpha for this sample was .84.

Children completed the Children's Perception Questionnaire (CPQ; Emery & O'Leary, 1982), a 38-item measure (scores range from 38 to 114), which yields two subscales: The "Marital Discord" scale contains 12 items assessing children's perceptions of their parents' marital relationship (e.g., "My parents often yell and scream at each other when I'm around."). The "Parental Acceptance" scale contains 7 items derived mostly from the acceptance scale of the Children's Report of Parental Behavior Inventory (CRPBI; Margolies & Weintraub, 1977) (e.g. "My parents give me a lot of care and attention."). Coefficient alphas for this sample were .73 for the marital discord scale and .83 for the acceptance scale.

Parent-Child Relationship. For all of the measures assessing the parent-child relationship, children reported about the parent participating in the study, which is different from the parental acceptance subscale of the CPQ that asks children to respond

* Composites for the CDI, CRPBI, CBQ and FFS were created by taking the mean of the parent and child report.

about their "parents" as a unit rather than individually. The Children's Report of Parent Behavior Inventory (CRPBI; Schaefer, 1965) contains 24 items that yield 3 factors: acceptance (e.g. "My [mother or father] gives me a lot of care and attention."), psychological control (e.g. "My [mother or father] always try to change how I feel or think about things"), and monitoring (e.g. "How much does your [mother or father] really know who your friends are?"). Children completed the measure about the target parent and parents completed the same measure (reworded) about themselves. Respondents report on the similarity between the items and the parent's behavior using a 3-point scale (0 = like, 1 = somewhat like, 2 = not like). The CRPBI has been shown to have good reliability and validity (Schludermann & Schludermann, 1970). In the current sample, internal consistency was good for parent report (acceptance: $\alpha = .87$; psychological control: $\alpha = .74$; monitoring: $\alpha = .72$) and child report (acceptance: $\alpha = .90$; psychological control: $\alpha = .78$; monitoring: $\alpha = .84$). Parent and child report correlated significantly for each subscale (acceptance: $r = .36$; psychological control: $r = .36$; monitoring: $r = .42$; all *ps* $< .01$) and were combined into composite scores. Coefficient alphas for these composite scores in this sample were high (acceptance: $r_{YY} = .98$; psychological control: $r_{YY} = .92$; monitoring: $r_{YY} = .82$).

The CPQ and CRPBI acceptance scales share 4 items, although the overall focus of the 7-item CPQ scale is on the amount of time both parents devote to the child, whereas the focus of the 10-item CRPBI acceptance scale is on the individual parent's ability to comfort and support the child when upset. Also, whereas the CPQ is based on children's report about both parents, the CRPBI is in reference to only one parent. The three CRPBI subscale scores used in the present study were based on composites of both

children's and parents' reports, whereas the CPQ acceptance scale was based on child-report only.

The Conflict Behavior Questionnaire (CBQ; Prinz, Foster, Kent, & O'Leary) was completed by parents and children. This 20-item, true-false measure of perceived parent-child conflict includes items such as "The talks we have are frustrating," and "We almost never seem to agree." The CBQ has been shown to have good reliability and validity (Robin & Foster, 1989). In the current sample, parent and child report on the CBQ were correlated ($r=.31$; $p<.01$); internal consistency was high for parent ($\alpha = .91$) and child ($\alpha = .87$) report, and for the composite score that was created ($r_{YY} = .98$).

Children completed the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985) to measure children's perceptions about their relationships with specific people (e.g., mother, father, and sibling). The NRI has good reliability and validity (Furman & Buhrmester, 1985). The present study used the perceived support score, which comprises companionship, instrumental support, nurturance, admiration, and satisfaction with the relationship. A conflict scale also can be derived from the NRI to assess children's perceptions of conflict with the identified person (i.e., mother, father). Coefficient alphas for this sample were .92 for perceived support and .87 for conflict.

The Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987) was completed by children to measure their perception of parent-child attachment. Twenty-five items (e.g. "I tell my mother about my problems and troubles") were rated on a 5-point Likert scale, with higher scores indicating better attachment. The IPPA has

good reliability and validity (Armsden & Greenberg, 1987). Coefficient alpha for the current sample was .94.

Family Environment. The Family Functioning Scale (FFS; Bloom, 1985), which has been shown to have adequate reliability and validity (Bloom, 1985), was administered to parents and children. Eight of the fifteen subscales were completed including cohesion (e.g. "Family members really help and support one another"), expressiveness (e.g. "Family members say what is on their minds"), conflict (e.g. "We fight a lot in our family"), disengagement (e.g. "Family members do not check with each other when making decisions"), democratic family style (e.g. "Family members make the rules together"), laissez-faire family style (e.g. "Members of our family can get away with almost anything"), authoritarian family style (e.g. "There is strict punishment for breaking the rules in our family"), and enmeshment (e.g. "Family members feel pressured to spend their free time together"). The cohesion, expressiveness and conflict scales were combined to create the Family Relationships Index [FRI; (cohesion plus expressiveness) minus conflict], which has good reliability and validity (e.g. Holahan & Moos, 1983). In the current sample, parent and child report correlated significantly for each subscale (FRI: r =.43; disengagement: r =.18; democratic family style: r =.19; laissez-faire family style: r =.24; authoritarian family style: r =.29; enmeshment: r =.29; all *ps*<.01). A composite score was created for each subscale based on combining the parent and child report. Coefficient alphas for the composite scores were .99 for FRI, .64 for disengagement, .88 for democratic family style, .81 for laissez-faire family style, .75 for authoritarian family style, and .86 for enmeshment.

CHAPTER III

RESULTS

Data Analyses

Separate linear regression analyses were conducted to test the relations of risk, parent gender, child gender, and all the two-way and three-way interactions to the dependent variables (i.e., measures of the family context) including parents' marital relationship (CPQ, OPS), the parent-child relationship (CRPBI, CBQ, NRI, IPPA), and the family environment (FFS). In all analyses, in the first step, SES was entered as a covariate, and risk, parent gender, and child gender were entered as main effect variables. Two-way interactions were entered in the second step, and the risk x parent gender x child gender interaction was entered in the final step. Simple slope analyses were conducted on all significant interactions, per Aiken and West (1991).

Another series of linear regression analyses was conducted to examine the relations of risk, parent gender, child gender, the different family variables, and all two- three- and four-way interactions to children's depressive symptoms (CDI composite). Again in the first step, SES was entered as a covariate, and risk, parent gender, child gender, and one family measure (i.e. CPQ, OPS, CRPBI, CBQ, NRI, IPPA and FFS) also were entered as main effect variables. Two-way interactions were entered in the second step, three-way interactions were entered in the third step, and the risk x parent gender x child gender x family measure interaction was entered in the final step. Simple slope analyses were conducted on all significant interactions (Aiken & West, 1991).

Descriptive Analyses

Means, standard deviations, and correlations for all variables are reported in Table 2. Risk correlated significantly with the composite measure of children's depressive symptoms (r =.42, p<.001) and with many of the family measures. Parent and child gender were not significantly correlated with children's level of depressive symptoms.

Do parent gender and child gender moderate the relation between risk and the family measures?

Marital Relationship. Regression analyses revealed main effects of risk on both children's report of marital discord on the CPQ (β = 12.09, pr =.20, *p* =.008) and parents' report of overt hostility in their marriage on the OPS (β = 4.24, pr = .34, *p* <.001), indicating that families with a depressed parent were characterized by higher levels of marital discord and over hostility than families of nondepressed parents.

Parent-Child Relationship. Significant main effects of risk were found for CRPBI parental acceptance (β = -1.33, pr = -.19, *p* = .008) and psychological control (β = 1.10, pr = .23, *p* = .001), and for conflict on the CBQ (β = 2.07, pr = .27, *p* <.001). The interaction of risk by parent gender by child gender significantly predicted children's report of their perceived acceptance by their parents (CPQ) (β = 10.50, pr = .16, *p* = .03) (See Figure 1). Simple slope analyses revealed that for high-risk families, the child gender by parent gender interaction was significant (β = 8.02, pr = .19, *p* = .01). Sons of depressed fathers (bar C) perceived higher levels of acceptance by their parents than did sons of depressed mothers (bar A; β = 4.87, pr = .17, *p* = .026). Sons of depressed fathers

also perceived greater parental acceptance than did daughters of depressed fathers (β = 7.00, pr = .19, *p* = .01; see bars C vs. D). No significant differences were found for low-risk offspring.

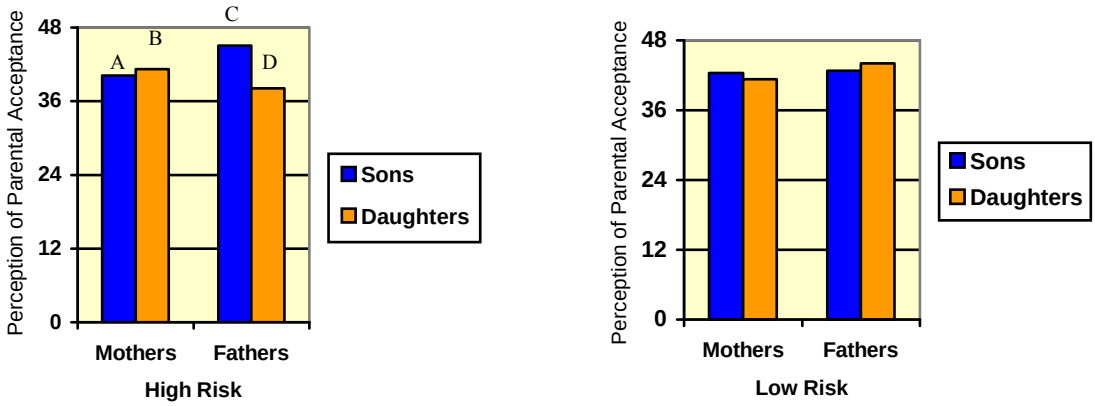

Figure 1. Risk by parent gender by child gender interaction on children's acceptance of marital discord (CPQ).

The risk by parent gender by child gender interaction significantly predicted parental monitoring on the CRPBI (β = 2.56, pr = .19, *p* = .008) (See Figure 2). For high-risk families, the parent gender by child gender interaction was significant (β = 2.20, pr = .26, *p* <.001). Depressed (i.e., high-risk) fathers monitored daughters less than did depressed mothers (β = -2.54, pr = -.38, *p* <.001; see bars C vs. A) and less than depressed fathers monitored sons (β = 2.10, pr = .28, *p* <.001; see bars C vs. B). Among fathers, the risk by child gender interaction also was significant (β = 2.55, pr = .22, *p* = .003) indicating that depressed fathers monitored their daughters less than did nondepressed fathers (β = -2.44, pr = -.27, *p* <.001; see bars C vs. D). Thus, the three-way

interaction appears to have been mostly explained by comparatively lower monitoring of daughters by depressed fathers.

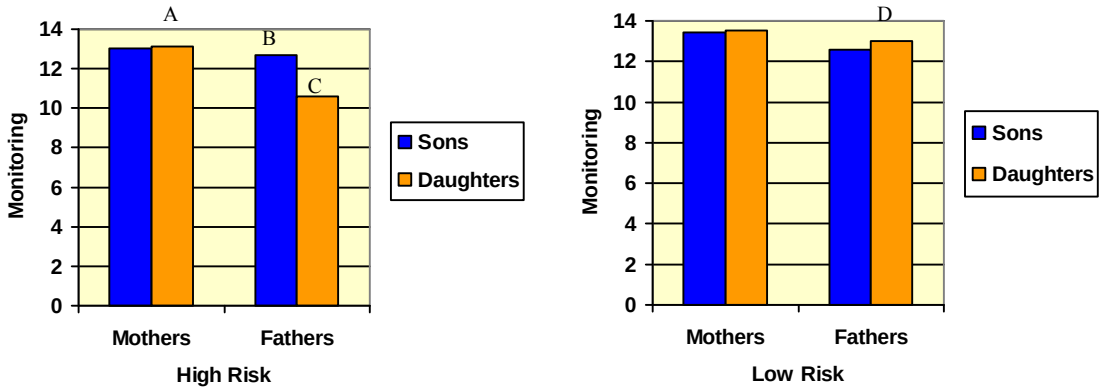

Figure 2. Risk by parent gender by child gender interaction on parental monitoring (CRPBI).

Family Environment. Analyses revealed main effects of risk on several subscales of the FFS including the FRI (β = -4.94, pr = -.38, p <.001), democratic family style (β = -1.34, pr = -.20, p =.005), and laissez-faire family style (β = 1.17, pr = .26, p <.001). The risk by child gender interaction significantly predicted enmeshment (β = -1.28, pr = -.15, p = .03) (See Figure 3a). Simple slope analyses revealed that both sons (β = 1.30, pr = .19, p = .007; see bars C vs. D) and daughters (β = 2.59, pr = .39, p < .001; see bars A vs. B) of depressed parents had higher levels of enmeshment than did sons and daughters of nondepressed parents. In low-risk families, daughters were less enmeshed than sons (β = 1.07, pr = .16, p = .026; see bars D vs. B), whereas high-risk daughters and sons were not significantly different in enmeshment levels (β = -.22, pr = -.04, p = .62).

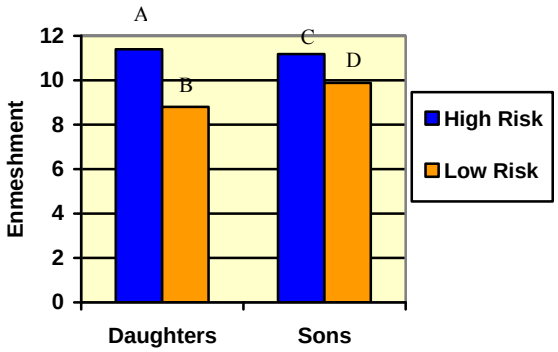

Figure 3a. Risk by child gender interaction on family enmeshment (FFS).

The risk by parent gender interaction also was significant (β = -2.08, pr = -.21, *p* = .003) (See Figure 3b) indicating that depressed (i.e., high-risk) mothers (bar A) were more enmeshed with their children than were nondepressed (i.e., low-risk) mothers (bar B; β = 2.59, pr = .38, *p* <.001), whereas for fathers, risk was not significantly related to enmeshment (β = .51, pr = .05, *p* = .47). In addition, low-risk mothers were significantly less enmeshed than low-risk fathers (β = 1.55, pr = .16, *p* = .02; see bars B vs. C), whereas high-risk mothers and fathers did not differ significantly regarding enmeshment (β = -.52, pr = -.06, *p* = .37).

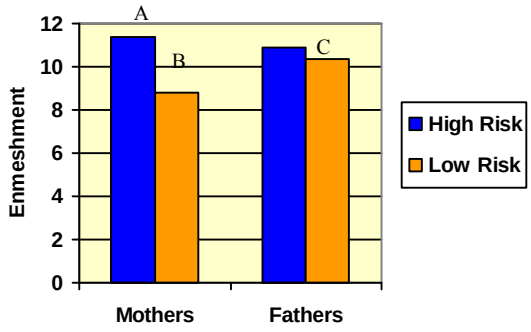

Figure 3b. Risk by parent gender interaction on family enmeshment (FFS).

Regarding authoritarian family style, the risk by parent gender interaction was significant (β = -2.29, pr = -.24, *p* = .001) (See Figure 4). Simple slope analyses revealed that nondepressed fathers (bar C) were more authoritarian than depressed fathers (bar B; β = -1.95, pr = -.20, *p* = .004); in low-risk families, fathers were more authoritarian than mothers (β = 2.11, pr = .23, *p* = .001; see bars C vs. A), whereas in high-risk families parent gender was not significantly related to authoritarian family style (β = -.19, pr = -.02, *p* = .74). Thus, the higher level of authoritarian family style in low-risk fathers appeared to account for the significant interaction.

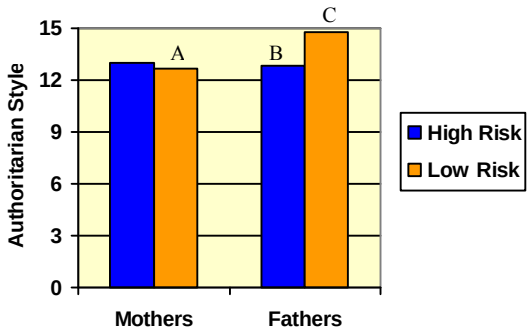

Figure 4: Risk by parent gender interaction on authoritarian family style (FFS).

For the disengagement subscale, the risk by parent gender by child gender interaction was significant (β = -2.34, pr = -.14, *p* = .047) (See Figure 5). Simple slope analyses revealed that for high-risk families, the child gender by parent gender interaction was significant (β = -1.70, pr = -.16, *p* = .02). Depressed fathers of daughters (bar D) were more disengaged than depressed mothers of daughters (bar B; β = 1.21, pr = .16, *p* = .028) and depressed fathers of sons (β = -1.49, pr = -.17, *p* = .019; see bars D vs. C). In addition, for fathers, the risk by child gender interaction was significant (β = -2.30, pr = -.16, *p* = .026). Depressed fathers of daughters were more disengaged than were

nondepressed fathers of daughters (β = 2.47, pr = .21, *p* = .002; see bars D vs. G). Depressed mothers were more disengaged than nondepressed mothers with both sons (β = 1.05, pr = .17, *p* = .016; see bars A vs. E) and daughters (β = 1.01, pr = .19, *p* = .01; see bars B vs. F).

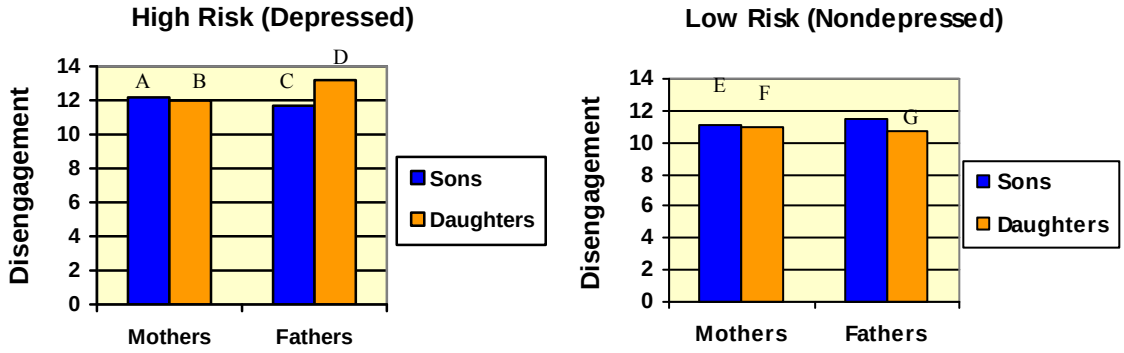

Figure 5. Risk by parent gender by child gender interaction on family disengagement (FFS).

Do the relations between the family measures and children's depressive symptoms vary as a function of risk, parent gender, and child gender?

Marital Relationship. Regression analyses revealed significant main effects of marital discord (β = .04, pr = .30, *p* <.001) and children's perceived parental acceptance (β = -.20, pr = -.33, *p* <.001) on children's depressive symptoms. The risk by child gender by overt hostility (OPS) interaction significantly predicted children's depression (β = .61, pr = .17, *p* = .03) (See Figure 6). For high-risk families, the child gender by overt hostility interaction was significant (β = .32, pr = .15, *p* = .05). Among high-risk sons, higher levels of parental overt hostility in their marriage were significantly related to higher levels of boys' depressive symptoms (β = .29, pr = .18, *p* = .02; see bars B vs. A); this relation was not significant for high-risk daughters (β = -.03, pr = -.02, *p* = .79), low-

risk daughters (β = .20, pr = .10, *p* = .20), or low-risk sons (β = -.09, pr = -.04, *p* = .63). In addition, risk was significantly associated with depressive symptoms for daughters in both high hostility (β = 4.50, pr = .29, *p* <.001; see bars E vs. F) and low hostility (β = 7.31, pr = .19, *p* = .01; see bars C vs. D) families. Risk was not significantly related to depressive symptoms for sons in either high hostility (β = 1.89, pr = .10, *p* = .19) or low hostility (β = -2.69, pr = -.06, *p* = .45) families.

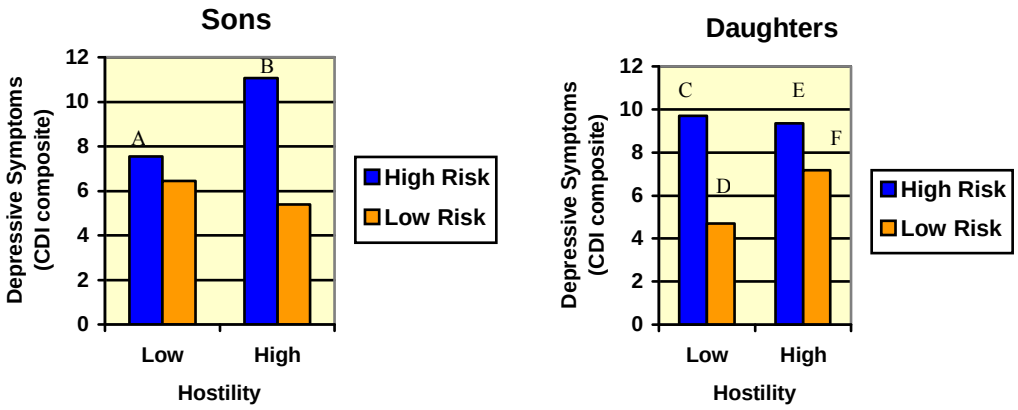

Figure 6. Risk by child gender by parents' overt hostility (OPS) interaction on children's depressive symptoms (CDI composite).

Parent-Child Relationship. Analyses revealed significant main effects of CRPBI psychological control (β = .70, pr = .35, *p* <.001), CBQ conflict (β = .68, pr = .54, *p* <.001), NRI perceived support (β = -.10, pr = -.24, *p* = .001), and IPPA attachment (β = -.13, pr = -.51, *p* <.001) on children's depressive symptoms (CDI). The risk by NRI conflict interaction was significant (β = .54, pr = .15, *p* = .04) (See Figure 7). For high-risk families, higher levels of NRI conflict were significantly related to higher levels of children's depressive symptoms (β = .98, pr = .36, *p* <.001; see bars B vs. A), whereas for

low-risk families, level of NRI conflict was not significantly related to level of depressive symptoms (β = .44, pr = .13, *p* = .09).

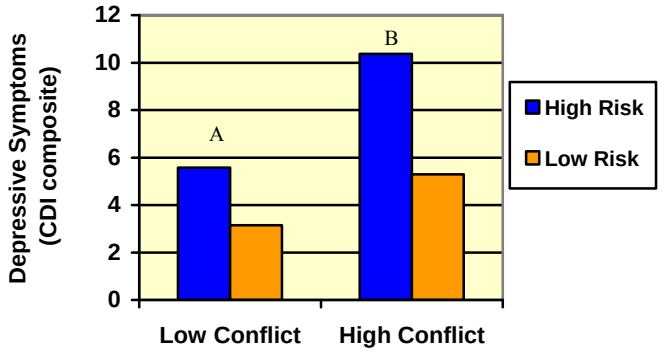

Figure 7: Risk by NRI conflict interaction on children's depressive symptoms (CDI composite).

The risk by parent gender by child gender by parental acceptance (CRPBI) interaction significantly predicted children's depressive symptoms (β = -1.73, pr = -.14, *p* = .05) (See Figure 8). Simple slope analyses revealed that for high levels of parental acceptance, the risk by parent gender by child gender interaction was significant (β = 39.94, pr = .15, *p* = .047). For sons with high levels of parental acceptance, the risk by parent gender interaction significantly predicted depressive symptoms (β = 26.63, pr = .14, *p* = .049). Among high acceptance parents, low-risk sons of fathers (bar K) had higher levels of depressive symptoms than did low-risk sons of mothers (bar L; β = -21.03, pr = -.15, *p* = .045). For those with low levels of parental acceptance, the risk by parent gender by child gender interaction also was significant (β = 51.70, pr = .15, *p* = .047). For sons with low levels of parental acceptance, the risk by parent gender interaction significantly predicted children's depressive symptoms (β = 34.74, pr = .14, *p* = .048). Among low acceptance parents, low-risk sons of mothers (bar J) had higher

levels of depressive symptoms than did low-risk sons of fathers (bar I; β = -27.05, pr = -.15, *p* = .047). This pattern was opposite to that found for low-risk sons with high levels of parental acceptance.

For sons, the risk by parent gender by parental acceptance interaction significantly predicted children's level of depressive symptoms (β = -1.19, pr = -.15, *p* = .045). Among low-risk sons, the acceptance by parent gender interaction was significant (β = .88, pr = .14, *p* = .05). Compared to low parental acceptance, high parental acceptance predicted lower levels of depression for sons of nondepressed mothers (β = -1.07, pr = -.24, *p* = .001; see bars L vs. J) but not for sons of nondepressed fathers (β = -.19, pr = -.04, *p* = .56). Higher parental acceptance also was associated with lower levels of depressive symptoms in high-risk daughters of mothers (β = -.75, pr = -.33, *p* <.001; see bars B vs. A), high-risk sons of mothers (β = -.57, pr = -.23, *p* = .002; see bars H vs. F), high-risk sons of fathers (β = -.88, pr = -.20, *p* = .008; see bars G vs. E) and low-risk daughters of mothers (β = -.55, pr = -.17, *p* = .017; see bars D vs. C).

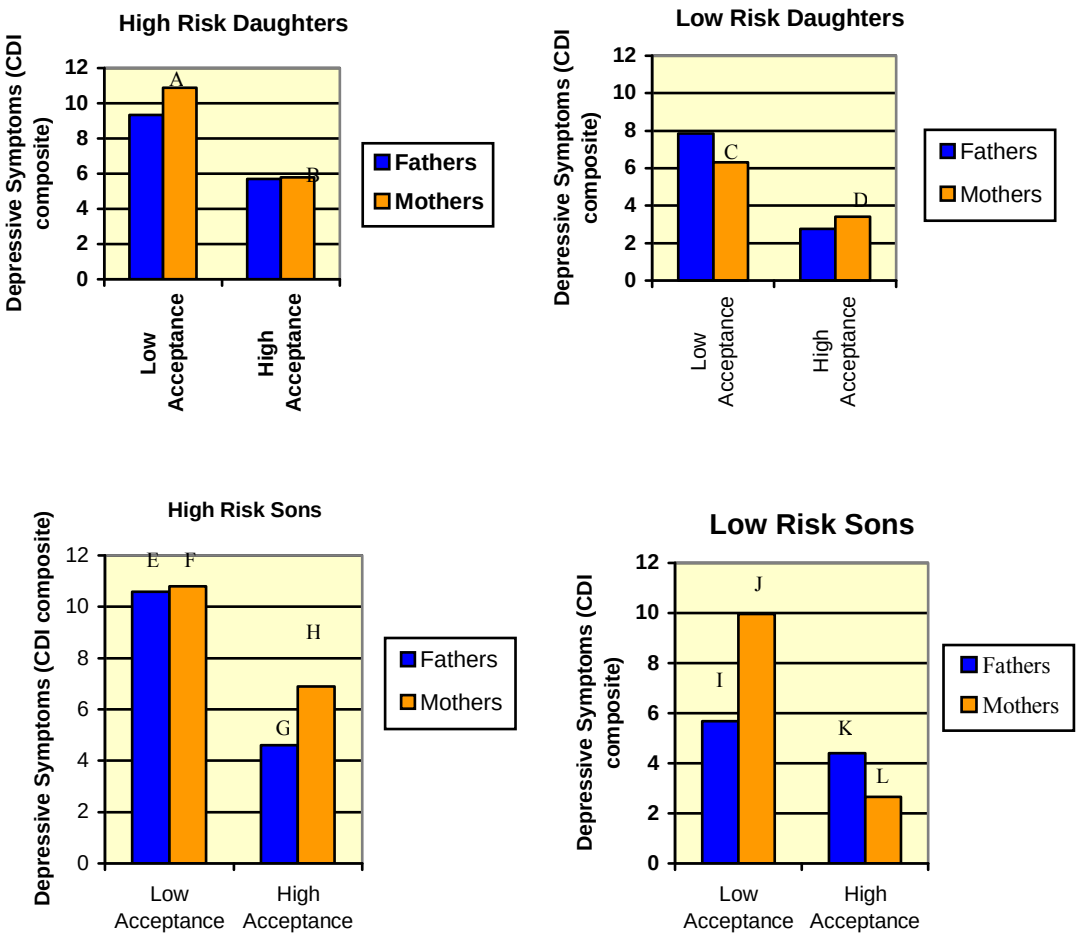

Figure 8. Risk by parent gender by child gender by parental acceptance (CRPBI) interaction on children's depressive symptoms (CDI composite).

The risk by parent gender by child gender by parental monitoring interaction significantly predicted children's depressive symptoms (β = -3.99, pr = -.15, *p* = .04) (See Figure 9). Simple slope analyses revealed that for mothers, the risk by child gender by parental monitoring interaction was significant (β = 3.62, pr = .20, *p* = .005). The child gender by risk interaction significantly predicted depression for low monitoring mothers (β = -56.52, pr = -.20, *p* = .005) and for high monitoring mothers (β = -45.17, pr = -.20, *p* = .006). Among depressed (i.e., high-risk) mothers who were low in monitoring, daughters (bar B) had higher levels of depressive symptoms than sons (bar A; β = -30.96,

pr = -.21, *p* = .004). Among depressed mothers who were high in monitoring, sons (bar C) had higher levels of depressive symptoms than daughters (bar D; β = -24.5, pr = -.21, *p* = .004). Child gender was not significantly related to level of children's depressive symptoms for nondepressed (i.e., low-risk) mothers who were low in monitoring (β = 25.56, pr = .11, *p* = .14) or high in monitoring (β = 20.67, pr = .11, *p* = .13). Significantly higher levels of depressive symptoms were found for high-risk daughters of both low (β = 37.01, pr = .20, *p* = .008) and high (β = 30.28, pr = .20, *p* = .007) monitoring mothers compared to daughters of nondepressed mothers (see bars B vs. F and D vs. H, respectively). Risk was not associated with level of depression for sons of low monitoring (β = -19.51, pr = -.10, *p* = .19) or high monitoring (β = -14.89, pr = -.09, *p* = .21) mothers.

For high-risk mothers, the child gender by monitoring interaction was significantly associated with children's level of depressive symptoms (β = 2.06, pr = .21, *p* = .003); for mothers of daughters, the risk by monitoring interaction was significant (β = -2.15, pr = -.18, *p* = .015), and for high-risk daughters, the parent gender by monitoring interaction was significant (β = 1.66, pr = .17, *p* = .019). Thus, for daughters of depressed mothers, lower monitoring (bar B) was significantly associated with higher levels of depressive symptoms than higher monitoring (bar D; β = -2.49, pr = -.34, *p* <.001); this was not the case for sons of depressed mothers (β = -.43, pr = -.07, *p* = .37), daughters of nondepressed mothers (β = -.34, pr = -.04, *p* = .64), or daughters of depressed fathers (β = -.83, pr = -.12, *p* = .09). Among sons of nondepressed mothers, lower monitoring was significantly associated with higher levels of depressive symptoms (β =-1.9, pr =-.17, *p* =.02; see bars E vs. G).

For high monitoring parents, the risk by parent gender by child gender interaction was significantly associated with children's level of depressive symptoms (β = 50.23, pr = .15, p = .038). For daughters of high monitoring parents, the risk by parent gender interaction was significant (β = -35.99, pr = -.15, p = .04). Daughters of high monitoring, depressed fathers (bar J) had significantly higher levels of depression than did daughters of high monitoring, depressed mothers (bar D; β = -22.42, pr = -.21, p = .005). A different pattern was found for low monitoring parents, for whom the risk by child gender by parent gender interaction also was significant (β = 62.74, pr = .15, p = .039). For daughters of low monitoring parents, the risk by parent gender interaction was significant (β = -44.66, pr = -.15, p = .04). Daughters of low monitoring, depressed mothers (bar B) had higher levels of depressive symptoms than did daughters of low monitoring, depressed fathers (bar I; β = -27.64, pr = -.20, p = .007).

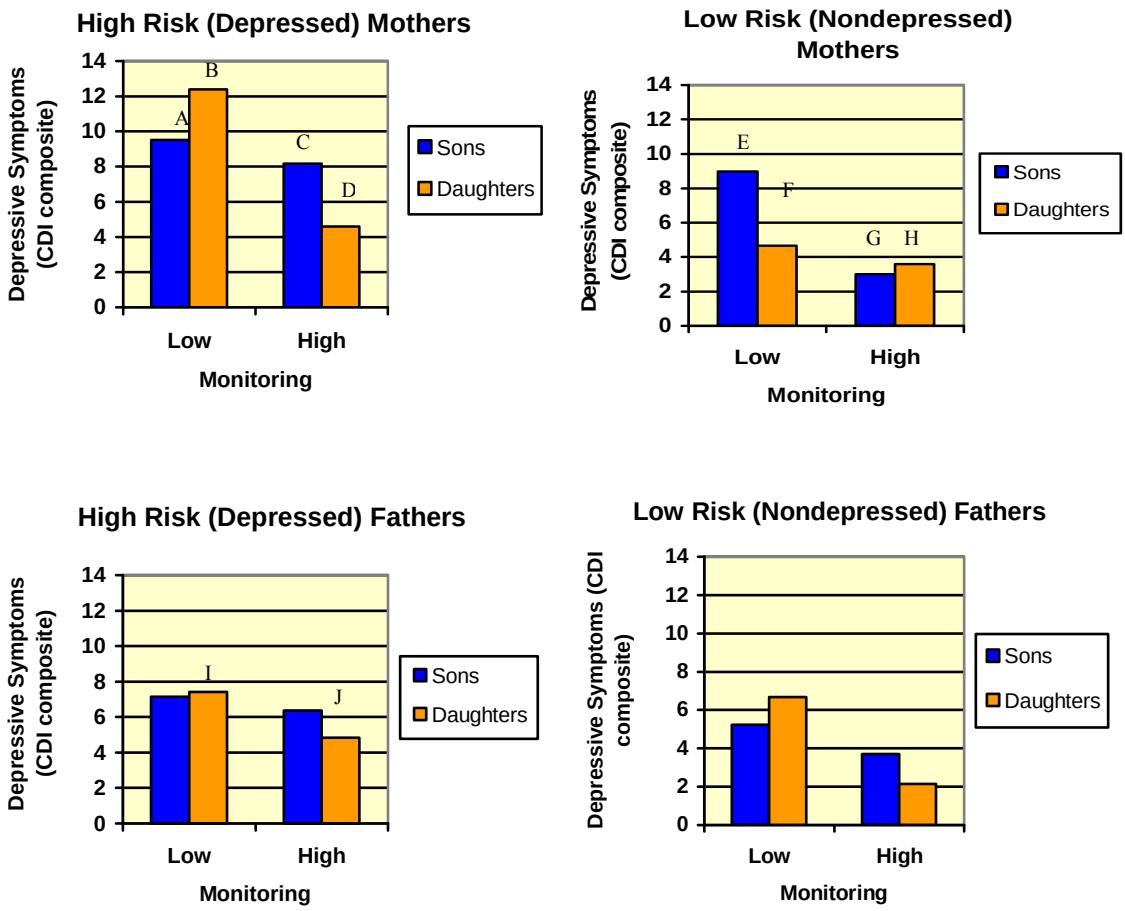

Figure 9. Risk by parent gender by child gender by parental monitoring interaction on children's depressive symptoms (CDI composite).

Family Environment. Analyses revealed significant main effects of the FRI (β = -.35, pr = -.45, p <.001), democratic family style (β = -.45, pr = -.22, p = .002), and enmeshment (β = .33, pr = .16, p = .026) on children's level of depressive symptoms. The parent gender by child gender by disengagement interaction was significant (β = -2.01, pr = -.15, p = .04) (See Figure 10). Simple slope analyses revealed that for low family disengagement, the parent gender by child gender interaction was significant (β = 24.02, pr = .14, p = .05). Figure 10 shows that the highest levels of depressive symptoms were apparent among daughters of fathers and sons of mothers from disengaged families,

although the simple slopes analyses were not significant for these comparisons. For high family disengagement, the parent gender by child gender interaction showed a non-significant trend (β = 16.67, pr = .14, *p* = .059). No other interactions or main effects were significant.

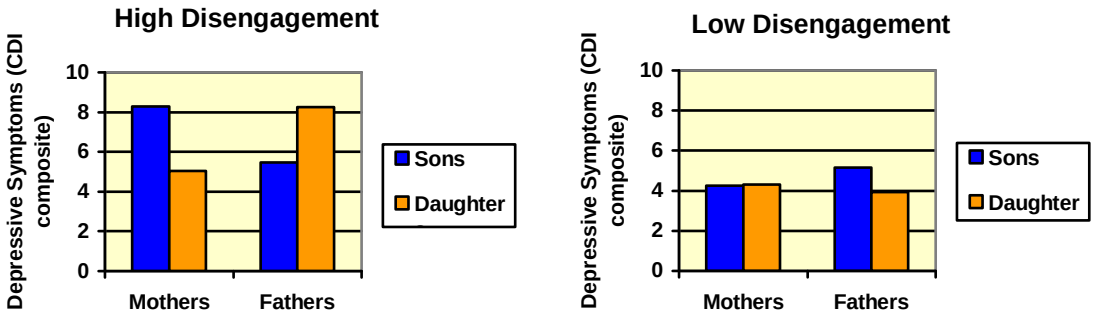

Figure 10. Parent gender by child gender by family disengagement (FFS) interaction on children's depressive symptoms (CDI composite).

The risk by parent gender by child gender by laissez-faire family style interaction significantly predicted children's level of depression (β = 4.60, pr = .14, *p* = .049) (See Figure 11). Simple slope analyses revealed that for high-risk families, the parent gender by child gender by laissez-faire family style interaction was significant (β = 2.18, pr = .15 *p* = .037). Also, the risk by parent gender by child gender interaction was significant for high laissez-faire families (β = -29.85, pr = -.15 *p* = .037) and for low laissez-faire families (β = -49.43, pr = -.15 *p* = .04). The child gender by parent gender interaction significantly predicted children's depressive symptoms among high-risk families that had low laissez-faire styles (β = -26.55, pr = -.16 *p* = .027) and high laissez-faire styles (β = -17.28, pr = -.16 *p* = .025). Simple slopes analyses also revealed that laissez-faire family style was significantly associated with children's level of depressive symptoms for

daughters of depressed mothers (β = .65, pr = .17, *p* = .017; see bars A vs. B), but not for daughters of nondepressed mothers (β = .36, pr = .08, *p* = .31), daughters of depressed fathers (β = -.23, pr = -.03, *p* = .66), or sons of depressed mothers (β = .02, pr = .01, *p* = .95).

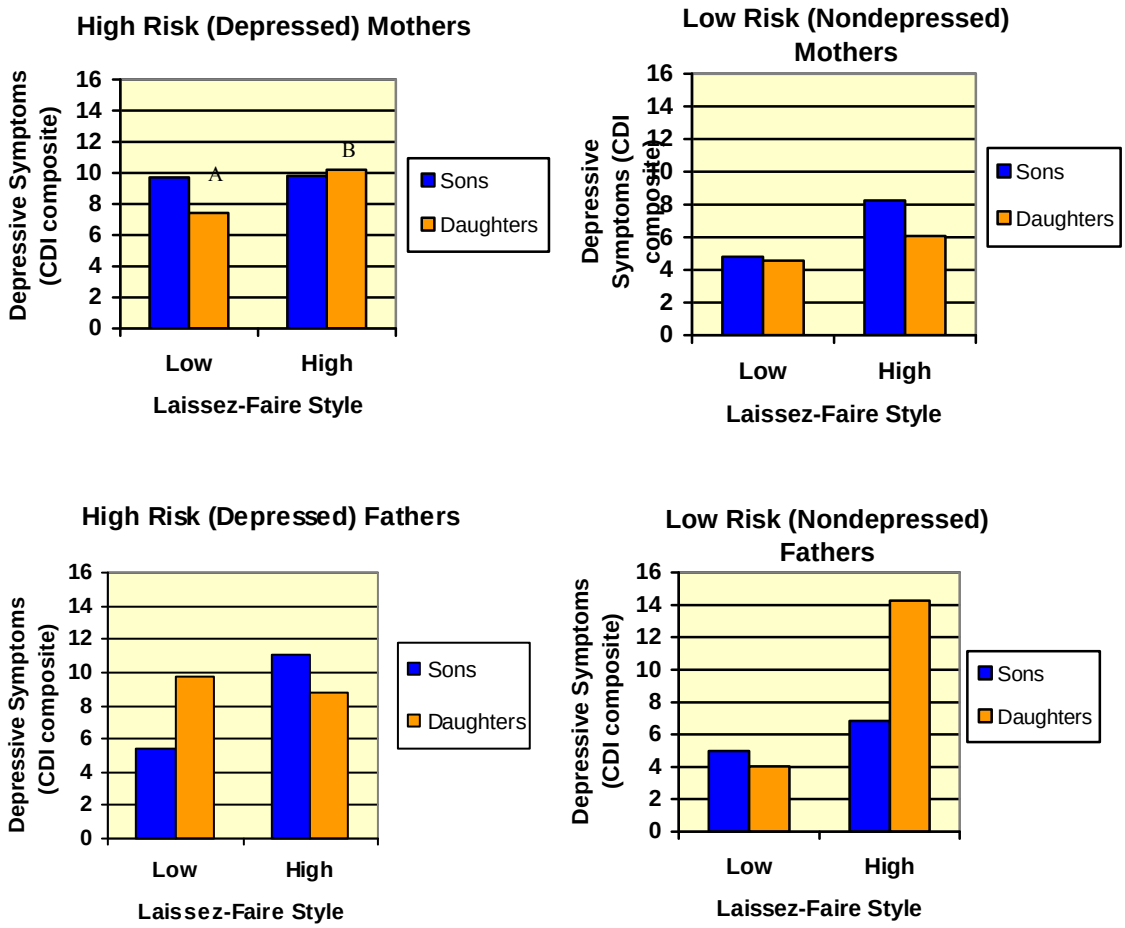

Figure 11. Risk by parent gender by child gender by laissez-faire family style interaction on depressive symptoms (CDI composite).

CHAPTER IV

DISCUSSION

The current study examined the relations among parental depression, parent gender, child gender, family context, and children's depressive symptoms. As expected, high-risk families were characterized by more marital discord, overt hostility, psychological control, conflict, and laissez-faire family style as well as less acceptance, a less democratic family style, and worse overall quality of family relationships than low-risk families. In addition, higher levels of marital discord, psychological control, conflict, and enmeshment, and lower levels of acceptance, perceived support, attachment, democratic family style, and overall relationship quality were significantly associated with higher levels of depressive symptoms in children. With regard to parent gender, depressed mothers were more enmeshed than nondepressed mothers, and depressed fathers were less authoritarian than nondepressed fathers. Regarding child gender, higher levels of overt marital hostility were associated with higher levels of depressive symptoms in sons of depressed parents.

Several significant interactions were found among risk, parent gender, child gender, and family context in relation to children's depressive symptoms. Opposite-sex dyads (i.e. sons of depressed mothers, and daughters of depressed fathers) reported significantly lower levels of parental acceptance than did sons of depressed fathers. Depressed fathers were more disengaged from and monitored daughters less than the other three parent-child dyads.

For same-sex dyads, lower acceptance from fathers was significantly linked to higher levels of depressive symptoms among high-risk sons. Among daughters of depressed mothers, low parental monitoring was significantly associated with higher depressive symptoms. In addition, high monitoring was more strongly linked to lower levels of depressive symptoms for daughters of depressed mothers than for sons of depressed mothers, daughters of depressed fathers, and daughters of nondepressed mothers. Also for daughters of depressed mothers, a more laissez-faire family style was associated with higher levels of depressive symptoms. Thus, daughters in high-risk families with disrupted family contexts appear to be at particular risk for depressive symptoms. In addition to replicating past findings connecting parental depression with problems in various aspects of the family context (e.g. Cummings et al., 2005; Lovejoy et al., 2000; Park et al., 2008) and linking these aspects of the family context to depressive symptoms in children (Garber, 2005; Goodman & Gotlib, 1999), the current study found that some of the relations among parental depression, family context, and children's depressive symptoms differed for mothers and fathers and sons and daughters.

Risk, Family Context and Children's Depressive Symptoms

Marital Relationship. Overt hostility (on the OPS) is the parent's report of discord in the marital relationship displayed in front of the child. The CPQ measures children's perceptions of this discord. Depressed (i.e., high-risk) parents reported displaying more hostility in front of their children than did nondepressed (i.e., low-risk parents), and children in high-risk families reported perceiving more discord in their parents' marriage than did children in low-risk families. Moreover, children's perceptions of high levels of

marital discord were associated with higher levels of depressive symptoms. Thus, consistent with previous research (e.g. Cummings et al., 2005), exposure to high levels of marital hostility and discord in families with a depressed parent likely contributes to children's own increased risk for depression.

Parent-child Relationship. Psychological control, as measured by the CRPBI, assesses the extent to which the parent uses guilt induction to control children's behavior and to limit the development of autonomy. Consistent with previous research (e.g., Brennan et al., 2003; Cummings et al., 2005; Herr et al., 2007), parental depression was significantly associated with more parental psychological control, and more psychological control was linked to higher levels of depressive symptoms in children. Thus, psychological control may be another mechanism that contributes to the cross generational transmission of depression, and may be a good target for preventive intervention with high-risk families (e.g., Beardslee, Gladstone, Wright, & Cooper, 2003; Beardslee & Podorefsky, 1988).

Conflict as measured by the CBQ assessed the extent to which the parent-child relationship was characterized by anger and frustration. Consistent with the literature (Kane & Garber, 2004; Sagrestano et al., 2003; Sheeber et al., 1997, 2007), high-risk families reported more parent-child conflict (CBQ), and more parent-child conflict was associated with higher levels of children's depressive symptoms. The NRI conflict subscale assesses the degree to which the child reports getting upset, disagreeing or arguing with the parent. The relation between the NRI conflict scale and children's depressive symptoms varied by risk. Specifically, higher levels of conflict were

associated with higher levels of depressive symptoms in high-risk families, but not in low-risk families.

Thus, the combined findings from the two measures of parent-child conflict (i.e., CBQ and NRI) indicate that high-risk families were characterized by more conflict than low-risk families and, within high-risk families, greater perceived conflict with the depressed parent was significantly related to higher levels of children's depressive symptoms. The direction of this relation, however, is not clear. That is, high levels of conflict with the depressed parent may be the result of the parents' irritability and/or unavailability, which in turn may contribute to the child's depression. It also is possible that children who are experiencing higher levels of depressive symptoms may be more likely to perceive and/or actually have more conflict with their depressed parent. These possibilities are not mutually exclusive and likely both contribute to transactional and reciprocal relations among parent-child conflict and parent and child depression.

Perceived support measured by the NRI assessed children's perceptions of companionship, instrumental support, nurturance, admiration, and satisfaction in their relationship with their parent. Attachment measured by the IPPA assessed children's perceived amount of trust and communication in the parent-child relationship. Higher perceived support and attachment were both associated with lower levels of children's depressive symptoms. These findings are consistent with previous studies showing that support from parents is related to fewer depressive symptoms in children (Dallaire et al., 2006; Stice et al., 2006) and that less attachment to mothers is associated with more depressive symptoms (Allen et al., 2006). Of note, however, was that offspring of depressed parents in the current study did not report significantly lower levels of

perceived support or attachment compared to low-risk children. Thus, although these aspects of the parent-child relationship are related to children's levels of depressive symptoms, the *levels* of these relationship characteristics did not differ significantly in high- versus low-risk families.

The current study did not find significant differences between boys and girls in the association between perceived support and children's depression. This finding is consistent with results from a recent study by Sheeber and colleagues (2007) who reported that the relation between supportive parenting and child depression did not differ based on child gender, but inconsistent with studies that have found gender differences in the connection between support and depression (Cumsille & Epstein, 1994; Slavin & Rainer, 1990). In both of these studies, however, perceived support was in reference to multiple family members as opposed to a specific parent as measured in the current study. For example, the measure used by Slavin and Rainer averaged support from three different family members to create a "family support" construct. Support from other family members may counteract negative effects of the lack of support from the depressed parent. Moreover, the extent to which other family members take on a supportive role may differ as a function of children's gender. That is, the connection between support from the family as a whole and children's depressive symptoms may differ for boys and girls, whereas the association between low perceived support from a depressed parent and higher levels of depressive symptoms may be the same for both genders.

Family Environment. The Family Relationship Index (FRI) of the FFS measures the quality of family relationships by assessing the extent to which the family is close and

supportive, openly discusses problems, and is low in conflict. High-risk families reported lower quality family relationships (FRI), and lower quality family relationships were significantly associated with higher levels of depressive symptoms in children. These findings are consistent with previous research showing a connection between maternal depression and more negativity and less positivity in the family environment (Park et al., 2008) as well as a link between family functioning and depressive symptoms in children (Millikan et al., 2002).

The democratic family style subscale of the FFS measures the extent to which the family collaborates in making decisions and in establishing rules and consequences. High-risk families reported a less democratic family style than low-risk families, and lower levels of this democratic family style were associated with more depression in children. The lower level of a democratic family style found in high-risk families may exacerbate children's feeling of lack of control derived from their parents' depressive symptoms (e.g., withdrawal, irritability), the consequences of which may contribute to high-risk children's depressive symptoms. Thus, quality of family relationships and democratic family style may be particularly important in the association between parental and child depression. Overall, these findings indicate that problems in the marital relationship, parent-child relationship and family environment may be potential pathways through which parent and child depression are linked, and possible targets for intervention.

Risk and Child Gender

Marital Relationship. The relation between overt marital hostility and children's depressive symptoms varied by risk and child gender. For daughters, high-risk was associated with higher levels of depressive symptoms regardless of amount of hostility displayed by parents, and parental hostility was not related to depression for daughters in either risk condition. Conversely, for sons in high-risk families, high parental hostility was related significantly to higher levels of depressive symptoms. Thus, the amount of hostility displayed by parents toward each other was especially tied to depressive symptoms in sons, but not in daughters. It is possible that observing these hostile interactions, in combination with society's greater acceptance of aggression in boys, leads sons to model this hostile behavior, thereby creating more family stress and more depressive symptoms in these sons.

Family Environment. Enmeshment as measured by the FFS appears to be an index of the extent to which family members feel pressured to spend time with each other and are not able to get "alone" time. The scale did not measure other features of enmeshment such as not respecting personal boundaries, being overly involved in each others' lives, or interfering with age-appropriate autonomy development. Therefore, the results of the enmeshment subscale should be interpreted with this more narrow definition in mind.

Overall, both sons and daughters of depressed parents had higher levels of enmeshment compared to children of non-depressed parents. Thus, high-risk offspring might have had a greater desire but fewer opportunities to get away from their depressed parent compared to low-risk children. In addition, the relation between risk and enmeshment varied by child gender. In low-risk families, enmeshment scores were lower

for daughters than for sons; no gender difference in enmeshment was present in high-risk families. Low-risk daughters also had significantly lower levels of enmeshment compared high-risk daughters. Thus, girls living in a home with low levels of parental depression may find spending time with parents enjoyable rather than something to be avoided.

Risk and Parent Gender

Family Environment. The relation between risk and enmeshment also varied by parent gender. Families with depressed mothers were more enmeshed than families with non-depressed mothers, whereas paternal depression was not significantly related to enmeshment. Consistent with previous research (Barber & Buehler, 1999), the current study also found that more enmeshment was related to higher levels of depressive symptoms in the children. Thus, enmeshment was more common in high- compared to low-risk families and was significantly related to children's depressive symptoms.

The authoritarian family style subscale of the FFS is an index of whether parents enforce strict rules with severe punishments. The relation between risk and authoritarian family style varied by parent gender. No gender difference was found in high-risk families whereas low-risk fathers were significantly more authoritarian compared to low-risk mothers and high-risk fathers. Thus, non-depressed fathers established more rules and enforced them more strictly than depressed fathers. This lower limit setting by depressed fathers is consistent with our finding that high-risk families were characterized by less monitoring and a more laissez-faire family style.

In contrast to Cowan and colleagues (1993) who reported that fathers of daughters had a particularly authoritarian parenting style, no such parent by child gender interaction was found in the present study. Differences in the measures of authoritarian parenting used in the two studies may partially explain these discrepant results. Whereas the study by Cowan and colleagues used observational ratings of authoritarian parenting style designed to measure the extent to which the parent provided structure and limits in a cold, angry or disengaged way, this study used a self-report measure that focuses on the strict rules and punishments in the family, but not the manner in which they are enforced. Thus, differences in findings of the current study compared to those of Cowan and colleagues may be due, in part, to the different measurement strategies used. In addition, given the relatively small number of fathers in the current sample, there might not have been sufficient power to detect a parent by child gender interaction.

Parent Gender by Child Gender: Opposite-Sex Dyads

Parent-Child Relationship and Family Environment. The measure of parental acceptance from the CPQ focuses on the amount of time both parents devote to the child. The relation between risk and this measure of children's perceptions of parental acceptance varied by parent and child gender. Specifically, daughters of depressed fathers and sons of depressed mothers reported less parental acceptance than did sons of depressed fathers. Given that the CPQ was based on children's self-report only, it is not clear whether depressed fathers were less accepting of their daughters and depressed mothers were less accepting of their sons, or if the children simply perceived this to be the case. Lower perceived parental acceptance also was associated with higher levels of

children's depressive symptoms. Thus, children of depressed parents of the opposite gender perceived their parents as devoting less time to them, which may be interpreted as a form of rejection, thereby increasing the risk of depression in these children.

The monitoring subscale of the CRPBI assesses the extent to which the parent knows how the child spends his/her time. The disengagement subscale of the FFS focuses on the extent to which family members are aware of each others' actions and consult with other family members before making decisions. Both the relations between risk and parental monitoring and between risk and disengagement varied by parent and child gender. Specifically, depressed fathers engaged in significantly less monitoring of, and were more disengaged from daughters compared to depressed fathers' of sons, depressed mothers' of daughters, and non-depressed fathers' of daughters. Depressed fathers may disengage from and conduct less monitoring of their daughters because of the greater effort needed to understand their daughters' problems compared to those of their sons (Ge et al., 1995). In addition, high-risk daughters may feel uncomfortable sharing details of their lives and consulting about important decisions with their depressed fathers.

The relation between disengagement and children's depressive symptoms varied by parent and child gender. Among highly disengaged families, daughters of fathers and sons of mothers had higher levels of depressive symptoms than did daughters of mothers and sons of fathers, respectively. Thus, offspring of depressed fathers seem to be exposed to high levels of disengagement, and such disengagement is particularly linked to depressive symptoms in opposite-gender dyads. Such family disengagement may be another factor that contributes to the link between paternal depression and depression in girls.

The above findings are consistent with those of Ge and colleagues (1995), who showed that parent and child psychological distress (a latent construct assessing depression, anxiety and hostility) were more strongly linked for opposite-sex than for same-sex parent child dyads. In the current study, however, several negative aspects of the family context appeared to be worst between depressed fathers and their daughters. Thus, for daughters of depressed fathers, the family context may be a particularly important mechanism through which the risk of depression may be transmitted.

Parent Gender by Child Gender: Same-Sex Dyads

Parent-Child Relationship. The focus of the CRPBI acceptance scale is on the identified parent's ability to comfort and support the child when upset. Depressed mothers and fathers were found to be significantly less accepting of their children than were non-depressed parents. This result is consistent with the findings of a study by Herr and colleagues (2007) showing that offspring of depressed parents had lower CRPBI acceptance scores compared to children of non-depressed parents. Thus, depressed parents appear to have a particularly difficult time providing warmth and support to their children, perhaps due to their own distress.

The relation between parental acceptance (CRPBI) and children's depressive symptoms varied by risk and by parent and child gender. Lower acceptance from mothers was significantly related to higher depressive symptoms regardless of risk or child gender. Higher acceptance from fathers was associated with lower levels of depressive symptoms for high-risk sons. Whereas maternal acceptance appears to be more universally linked to depressive outcomes in children, the current findings highlight a

potentially important role of paternal acceptance for high-risk sons. The strength of this relation in a same-sex dyad is consistent with the findings of Roelofs and colleagues (2006) that rejection from fathers was related to depressive symptoms in sons but not daughters. Thus, our findings suggest that depressed fathers who are low in acceptance may pose a particular risk for their sons.

Other studies (e.g., Alloy et al., 2001; Bean et al., 2006), however, have shown that paternal acceptance is more strongly related to children's depressive symptoms than maternal acceptance, regardless of child gender. Alloy and colleagues (2001) used a longer version of the CRPBI (90 items), which may have assessed additional components of parental acceptance than the 10-item CRPBI acceptance scale used in the current study. The latter scale measures the parent's ability to comfort and support the child when upset, which may be expected more from mothers than fathers. Not receiving such maternal displays of acceptance may therefore be linked to depressive symptoms in children, regardless of risk or child gender, whereas absence of such behaviors from fathers may be less salient. In a sample of African American youth, Bean and colleagues (2006) found that higher paternal support, but not maternal support, was associated with fewer depressive symptoms for both sons and daughters. Differences between their results and the present findings may reflect cultural or racial differences in the connections among parent gender, child gender, parental acceptance, and depression. Thus, parental acceptance appears to be an important correlate of depression in children, although the nature of this relation may vary by parent and child gender, risk, culture, and race.

The association between parental monitoring and children's depressive symptoms also varied as a function of risk and parent and child gender. Specifically, for daughters of depressed mothers, lower parental monitoring was significantly linked with higher levels of daughters' depressive symptoms, which was not the case for sons of depressed mothers, daughters of nondepressed mothers, or daughters of depressed fathers. Thus, parental monitoring was particularly linked to depressive symptoms for daughters of depressed mothers. Elgar and colleagues (2007) recently reported that mothers of daughters displayed the most monitoring, and that low monitoring mediated the association between depressive symptoms in parents and children. As they did not examine whether these relations differed by parent and child gender, the current findings expand upon their results.

The relation between maternal depression, monitoring, and daughters' depressive symptoms may be due to several factors. First, daughters might interpret the absence of monitoring by their depressed mother as an indication of her lack of interest, which then could contribute to the daughter's depression. Second, high-risk daughters may be more secretive about their behaviors, possibly because they do not want to cause any more distress for their depressed mother. In either case, the girls' relational orientation (Rose & Rudolph, 2006; Rudolph, 2002) may make them more sensitive to the mother's behaviors. The processes accounting for the relations among parent and child depression and maternal monitoring need to be explored further.

Family Environment. Laissez-faire family style measured by the FFS assesses the extent to which the family lacks established rules and consistent consequences for breaking these rules. High-risk families reported a more laissez-faire family style, and the

relation between laissez-faire family style and children's depressive symptoms varied by risk and parent and child gender. This interaction appeared to be a function of the higher levels of depressive symptoms exhibited by daughters of depressed, high laissez-faire mothers compared to daughters of depressed, low laissez-faire mothers. Thus, the presence of a laissez-faire family style was particularly linked to depressive symptoms for daughters of depressed mothers. This is consistent with our finding of a significant relation between low monitoring and depressive symptoms in daughters of depressed mothers. Overall, high-risk girls may be particularly likely to experience depressive symptoms if their depressed mothers fail to show interest in their behaviors or to set consistent rules and consequences. It is also possible that daughters of depressed mothers who are experiencing depressive symptoms themselves do not communicate their whereabouts to their mothers, or that depressed mothers attempt to avoid conflict by not punishing their daughters. The importance of interpersonal relationships for mothers and daughters may make this dyad particularly sensitive to disruptions in the family context that are characterized by a lack of parental investment.

Summary

The current study found evidence consistent with the perspective that the lower quality family relationships may partially explain the cross-generational transmission of depression from parents to children. Moreover, the particular aspects of family context connecting parents' and children's depression appear to vary by parent and child gender. Relationships between depressed fathers and their daughters were characterized by less time spent together, less monitoring, and more disengagement. Such disengagement by

depressed fathers, then, was significantly associated with depressive symptoms in daughters.

For daughters of depressed mothers, less monitoring and a more laissez-faire family style were strongly related to depressive symptoms. High-risk sons experienced less time with their depressed mothers. Among sons of depressed fathers, less warmth and comfort (i.e., paternal acceptance) were significantly associated with higher levels of depressive symptoms. Thus, although for sons, acceptance appears to be an important characteristic of the family context linking parents' and children's depression, family context appears to be especially relevant in the connection between parental and child depression in girls. As such, daughters of depressed parents may be particularly susceptible to disruptions in the family context.

Limitations

Limitations of this study should be noted because they provide directions for future research. One strength of the current study was the inclusion of fathers, who have been underrepresented in the literature. A limitation of the current study, however, was that the number of fathers in the sample was small. As such, we may have lacked sufficient power to detect some interactions.

Second, the data for this study were based on questionnaires, which can be affected by rater bias, rather than independent observations of behavior that may provide a more objective assessment of the family context. To at least partially address this issue, multiple informants were included and composite scores were created. Although the use

of multiple informants does not eliminate the problem of method variance, it at least serves to reduce it.

Third, the current study was cross-sectional, and as such, the direction of the relations among variables cannot be determined from these results. Parent and child depression can reciprocally influence each other (Garber, 2005; Ge et al., 1995). The current findings do not allow us to conclude to what extent the family context variables were a cause and/or a consequence of the parents' or children's depression. Prospective studies are needed to better determine the temporal relations among the family context, parental depression, and children's depressive symptoms. Such information then could be used to guide the development of interventions aimed at preventing depression in youth.

Fourth, the relations among risk, parent and child gender, family context, and children's depression probably differ as a function of children's age (Ge et al., 1995). For example, adolescent girls tend to be more susceptible to disruptions in the family environment than pre-adolescent girls and adolescent boys (Hankin, Mermelstein, & Roesch, 2007; Rudolph et al., 2008). Given the relatively small sample size in the current study, however, we likely would not have had sufficient power to adequately test interactions with age.

Finally, the current study explored a variety of family context measures separately. These variables do not operate in isolation, however. Future research should examine how these constructs are related to each other and which ones best explain the cross-generational transmission of depression from parents to their children.

Overall, the current study showed that parental depression is associated with disruptions in the marital relationship, parent-child relationship, and family environment.

Difficulties in the family context also are linked with increased depressive symptoms in children. Interestingly, the strength of these connections varied by child gender, parent gender, and, in some cases, the interaction of the two. Depression is linked more strongly to certain aspects of the family context in same-sex parent-child dyads, and others in opposite-sex dyads. Future research should continue to clarify these associations and develop interventions that will enhance the parent-child relationship and thereby reduce the transmission of depression across generations.

Appendix A

Table 1. Demographic Characteristics

	High-Risk	**Low-Risk**
CHILDREN	**N = 129**	**N=97**
	Mean (SD)	**Mean (SD)**
Age	11.96 (2.40)	12.33 (2.19)
	N (%)	**N (%)**
Girls	68 (52.7%)	54 (55.1)
Ethnicity		
White, non-Hispanic	69.8%	69.4%
African-American	20.9%	22.4%
Asian	1.0%	1.0%
Multi-racial	7.8%	6.1%
PARENTS	**Depressed**	**Nondepressed**
	Mean (SD)	**Mean (SD)**
Age	41.32 (6.8)	44.48 (5.0)
Socio-economic Status[a]	43.60 (12.3)	49.20 (11.6)
	N (%)	**N (%)**
Female	86 (73.5)	61 (78.2)

[a]Hollingshead (1975) four factor index

Appendix B

Table 2. Means, Standard Deviations and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. SES	45.84	12.35	1									
2. Risk	.57	.50	-.22**	1								
3. Child Gender	.47	.50	.18*	-.01	1							
4. Parent Gender	.24	.43	.15*	.08	.15*	1						
5. Marital Discord (CPQ)	90.09	29.25	-.10	.23**	-.04	.03	1					
6. Acceptance (CPQ)	42.16	7.11	.07	-.14	.06	.06	-.30***	1				
7. Overt Hostility (OPS)	10.13	6.11	.02	.34***	.07	.11	.48***	-.27***	1			
8. Acceptance (CRPBI)	25.82	3.41	.09	-.25***	-.01	-.09	-.28***	.63***	-.28***	1		
9. Monitoring (CRPBI)	13.64	1.57	.13	-.26***	.04	-.28***	-.20**	.40***	-.18*	.48***	1	
10. Psych Control (CRPBI)	12.3	2.45	-.25***	.32***	-.02	.01	.29***	-.38***	.23**	-.48***	-.29***	1
11. Conflict (CBQ)	4.21	3.79	-.14*	.32***	.05	-.02	.32***	-.42***	.23**	-.62***	-.30***	.61***
12. Conflict (NRI)	6.01	2.45	-.18*	.15*	-.08	.003	.27***	-.32***	.06	-.43***	-.25***	.57***
13. Support (NRI)	45.82	10.62	-.09	-.09	-.08	-.17*	-.22**	.43***	-.13	.53***	.42***	-.24***
14. Attachment (IPPA)	102.23	18.06	.14	-.15*	.06	-.14*	-.37***	.58***	-.15*	.71***	.55***	-.54***
15. FRI (FFS)	21.79	6.24	.20**	-.43***	-.02	-.05	-.41***	.52***	-.43***	.68***	.43***	-.46***
16. Disengagement (FFS)	11.27	1.83	-.12	.34***	-.03	.07	.19**	-.32***	.19**	-.41***	-.47***	.28***
17. Democratic Style (FFS)	14.38	2.30	.17*	-.32***	.08	-.05	-.29***	.46***	-.32***	.51***	.38***	-.33***
18. Laissez-Faire Style (FFS)	9.16	2.13	-.09	.27***	.02	-.04	.26***	-.24**	.25**	-.38***	-.29***	.27***
19. Authoritarian Style (FFS)	12.15	2.04	-.09	-.00	.01	.02	.23**	-.10	.20**	-.15*	-.05	.29***
20. Enmeshment (FFS)	9.35	2.28	-.20**	.36***	-.03	-.03	.28***	-.18*	.30***	-.18**	-.14*	.38***
21. Depression (CDI)	5.83	5.00	-.18*	.42***	.02	-.03	.35***	-.34***	.27***	-.51***	-.37***	.46***

Table 2 (Continued).

	11	12	13	14	15	16	17	18	19	20	21
11. Conflict (CBQ)	1										
12. Conflict (NRI)	.51***	1									
13. Support (NRI)	-.37***	-.26***	1								
14. Attachment (IPPA)	-.59***	-.57***	.63***	1							
15. Family Relationship Index (FRI)	-.54***	-.36***	.41***	.53***	1						
16. Disengagement (FFS)	.37***	.25***	-.25***	-.38***	-.54***	1					
17. Democratic Style (FFS)	-.38***	-.22**	.40***	.46***	.69***	-.45***	1				
18. Laissez-Faire Style (FFS)	.37***	.19**	-.32***	-.33***	-.51***	.40***	-.34***	1			
19. Authoritarian Style (FFS)	.23***	.12	-.09	-.13	-.18**	-.08	-.18**	-.21**	1		
20. Enmeshment (FFS)	.27***	.13	-.08	-.18*	-.34***	.16*	-.29***	.27***	.21**	1	
21. Depression (CDI)	.60***	.45***	-.21**	-.50***	-.53***	.37***	-.32***	.29***	.09	.27***	1

*p<.05; **p<.01; ***p<.001

CPQ = Children's Perceptions Questionnaire; OPS = O'Leary Porter Scale; CRPBI = Children's Report of Parent Behavior Inventory; CBQ = Conflict Behavior Questionnaire; NRI = Network of Relationships Inventory; IPPA = Inventory of Parent and Peer Attachment FFS = Family Functioning Scale; CDI = Children's Depression Inventory

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